Massachusetts Coastal and Estuarine Land Conservation Program Potential Project Areas

Metadata also available as

Metadata:

Identification_Information:

Citation:

Citation_Information:

Originator: EOEA - Office of Coastal Zone Management

Publication_Date: November 2005

Title:

Massachusetts Coastal and Estuarine Land Conservation Program Potential Project Areas

Geospatial_Data_Presentation_Form: vector digital data

Online_Linkage: \\env-fp-cau01\Shared\czm\mcarullo\CELCP\celcp_all.shp

Description:

Abstract:

To be eligible for consideration under the Coastal and Estuarine Land Conservation Program (CELCP), prospective projects, in addition to meeting other criteria explained in the CELC Plan and Request For Responses, must be wholly or partially within the potential "project areas" identified in the Massachusetts CELC Plan, or the project proponent must demonstrate to the satisfaction of CZM that it should be defined as a potential "project area." This 1:25,000 vector dataset represents the CELCP potential project areas and is the conglomeration of many datasets, beginning with a modified verision of the Massachusetts Statewide Land

Conservation Plan data.

The NOAA Coastal and Estuarine Land Conservation Program protects "important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses." NOAA's CELCP also gives "priority to lands which can be effectively managed and protected and that have significant ecological value." CZM, through its Coastal and Estuarine Land Conservation (CELC) Plan provides guidance on the priority areas for land conservation in Massachusetts and the types of coastal and estuarine resources important for protection. CZM provides the coordinating and facilitating role for the solicitation of highly competitive coastal and estuarine land conservation projects within the Commonwealth, and also takes the lead in selecting and nominating projects to NOAA for further consideration under the national CELCP selection process. Based on this solicitation, CZM will nominate to NOAA those projects believed to be most beneficial to the Commonwealth and most competitive in the federal selection process. To assist in this endeavor CZM is planning to establish an advisory committee including representatives of state and federal agencies and others with experience and interest in land conservation activities.

Purpose: To determine CELCP project eligibility.

Supplemental_Information:

Visit www.mass.gov/czm/celcp/index.htm for more information on the Massachusetts Coastal and Estuarine Land Conservation Program.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: November 2005

Currentness_Reference: publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None planned

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -71.344826

East_Bounding_Coordinate: -69.901919

North_Bounding_Coordinate: 42.888228

South_Bounding_Coordinate: 41.237836

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: CELCP

Theme_Keyword: land acquisition

Theme_Keyword: land conservation

Theme_Keyword: land protection
Theme_Keyword: open space
Theme_Keyword: resource protection
Theme_Keyword: coastal zone
Theme_Keyword: estuarine
Theme_Keyword: CZM
Theme_Keyword: NOAA

Place:

Place_Keyword: towns
Place_Keyword: statewide
Place_Keyword: Massachusetts

Access_Constraints: None

Use_Constraints:

This dataset was produced for the sole purpose of helping applicants demonstrate whether their project is within the "project area" identified in the CELC Plan. It is intended for application at the town level--geographic areas from several hundreds to tens of thousands of acres. The appropriate map scale for viewing the CELCP data is 1:25,000. Displaying these data at scales greater than 1:25,000 (e.g., 1:10,000) could introduce horizontal positional inaccuracies that would compound those already inherent in the data. The dataset is based on MassGIS's Land Use data and should not be mistaken for parcel-based data. Appropriate parcel data was not available for use during the developement of the CELC Plan.

The Commonwealth of Massachusetts, the Executive Office of Environmental Affairs, and the Massachusetts Office of Coastal Zone Management make no warranties as to the accuracy of these data or any associated data. Any party that relies on these data or associated data as accurate does so at his, her, or its own risk. None of the above-named parties shall be liable for any discrepancies or inaccuracies present within these data or any data associated with the Coastal and Estuarine Land Conservation Program.

Point_of_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: David Janik
Contact_Organization: EOEA - Office of Coastal Zone Management

Contact_Position: CZM CELCP Coordinator

Contact_Address:

Address_Type: mailing address
Address: 251 Causeway Street
Address: Suite 800
City: Boston
State_or_Province: MA
Postal_Code: 02114
Country: USA

Contact_Voice_Telephone: 508-291-3625
Contact_Electronic_Mail_Address: david.janik@state.ma.us
Hours_of_Service: 9 AM - 5 PM

Native_Data_Set_Environment:
Microsoft Windows 2000 Version 5.0 (Build 2195) Service Pack 4; ESRI ArcCatalog 9.1.0.722

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:
The default Area and Perimeter measurements--in square meters--were internally updated with each change in geometry, as they were stored in the Personal Geodatabase format. Area measurements in Acres were updated by the user during geoprocessing when necessary. Town names and IDs were verified by MassGIS in their original source data. CELCP IDs follow the sequence of the ArcGIS-defined internal Feature ID.

Logical_Consistency_Report:
Data were developed in the ArcGIS 9.1 Personal Geodatabase format with topology classes. Slivers, gaps, and overlaps were formed when various data layers were geoprocessed to form the CELCP data layer. Gaps were allowed, slivers were eliminated (see Process Steps in the Data Quality section), and overlaps were merged/subtracted. Data is confirmed to have NO: overlapping features, null geometry, short segments, incorrect ring ordering, incorrect segment orientation, self intersections, unclosed rings, or empty parts.

Completeness_Report:
This data layer is complete to the extent that it's inputs are complete. These include Hydrography, Coastline, FEMA Q3 Flood Zones, Trail Vision, Open Space, Land Use, and of course, the Statewide Land Conservation Plan (SLCP) data. Please refer to Source Information and Process Steps in the Data Quality section of this metedata for information on these inputs. Note the currentness of these source data. For instance, MassGIS's Land Use data were produced from 1999 aerial color infrared photography. Obviously, Massachusetts coastal communities have experienced change in land cover and land use since 1999. Post-1999 land use data were unavailable during the development of the CELC Plan.

The minimum mapping unit for the CELCP potential project areas is 1 acre. This was dictated by the minimum mapping unit for MassGIS's Land Use data layer, in which the ArcInfo Identity command was used to help identify areas not suitable for conservation due to development. It was our intention to map potential project areas small in size (e.g., 1 acre) due to the lack of available open space suitable for conservation in urban areas. The original SLCP data, which was an important building block for the CELCP potential

project areas, has a 3 acre minimum mapping unit.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

There are many factors that affect the accuracy of the CELCP potential "project area" boundaries. The greatest source of error is the error associated with the data layers used in defining the "project areas." These data layers are derived from a number of different sources. One example of such a source is the USGS Topographic Quadrangle. The USGS National Mapping Program recognizes that 1:24,000 maps have accuracy standards of +/- 40 feet. This example illustrates how the error described above, as well as digitization error and/or map registration error are inherited by the CELCP potential "project areas" data via their source data.

The main layers that were used to develop the "project areas" are described in Source Information in the Data Quality section of this document. The following datasets were used to develop the CELCP data:

Hydrography (1:25,000); Coastline (1:25,000); FEMA Q3 Flood Zones (1:24,000); Trail Vision; Protected and Recreational Open Space (various levels of parcel data); Land Use (1:25,000); Statewide Land Conservation Areas (i.e., in addition to "hand-drawn" areas of interest, these data incorporate various EPA and MA DEP hyrdography and regulatory data, such as Wellhead Protection Areas and Sole Source Aquifers).

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: EOEA - MassGIS
Publication_Date: Unpublished Material
Title: Statewide Land Conservation Plan
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details:

This layer is a product of incorporating the following sources in various forms: digitized interests of dedicated land protection organizations including EOEA agencies, Regional Planning Agencies, and national and regional NGOs and land trusts; Surface Water Protection Areas, DEP Wellhead Protection Areas, EPA Sole Source Aquifers, Outstanding Resource Waters, and BioCMap Core habitat, among others.

Source_Scale_Denominator: 25000
Type_of_Source_Media: electronic mail system
Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: unknown
Source_Currentness_Reference: publication date
Source_Contribution:
The SLCP data were modified to direct focus of prioritizing land conservation to coastal and estuarine areas.
Source_Information:
Source_Citation:
Citation_Information:
Originator: EOEA - MassGIS
Publication_Date: February 2005
Title: Hydrography
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details:
These line and polygon data are hybrids of data based on USGS Digital Line Graphs (DLGs), scanned mylar separates obtained from the USGS, and digitized hydrographic features from paper USGS 1:25,000 Topographic Quadrangle maps. Visit <http://mass.gov/mgis/hd.htm> for more information.
Source_Scale_Denominator: 25000
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: February 2005
Source_Currentness_Reference: publication date
Source_Contribution:
Select linear and polygonal hydrographic features (rivers, streams, lakes, and ponds, of various types) were buffered to offer additional protection priority.
Source_Information:
Source_Citation:
Citation_Information:
Originator: EOEA - MassGIS
Publication_Date: April 1992
Title: Coastline
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details:
MassGIS has modified the USGS 1:24,000 Hydrography Digital Line Graph (DLG) quadrangle files to produce the Massachusetts coastline. Visit <http://mass.gov/mgis/cs.htm> for more information.
Source_Scale_Denominator: 25000

Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: April 1992
Source_Currentness_Reference: publication date
Source_Contribution:
The Coastline data were buffered to offer additional protection priority.
Source_Information:
Source_Citation:
Citation_Information:
Originator: FEMA
Originator: EOEA - MassGIS
Publication_Date: July 1997
Title: FEMA Q3 Flood Zones
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details:
FEMA created the Q3 Flood data by scanning current FIRM paper maps and vectorizing the data. Though the scales of the map sheets vary and the original paper FIRMs contain no horizontal control, the data do have horizontal control consistent with 1:24,000 maps. This was accomplished by fitting the flood data to a USGS quadrangle. Edgematching, overlaps and underlaps in data and other problems were not corrected during the conversion process. The data were received from FEMA as ARC/INFO export files which were processed by MassGIS and incorporated into the data library. Visit <http://mass.gov/mgis/q3.htm> for more information.
Source_Scale_Denominator: 24000
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: July 1997
Source_Currentness_Reference: publication date
Source_Contribution:
Select flood zones (V and VE) were buffered to offer additional protection priority.
Source_Information:
Source_Citation:
Citation_Information:
Originator: EOEA - MassGIS
Publication_Date: January 2002

Title: Land Use
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details:
The MassGIS Land Use datalayer has 37 land use classifications (MacConnelll) interpreted from 1:25,000 aerial color infrared photography. Photointerpretation and digitizing were completed by the UMASS Department of Forestry Resource Mapping Project. As part of the 1999 update RMP staff also removed slivers generated in earlier updates, fine-tuned edgematching between towns, and reinterpreted some historical land use codes. Visit <http://mass.gov/mgis/lus.htm> for more information.

Source_Scale_Denominator: 25000
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: January 2002
Source_Currentness_Reference: publication date
Source_Contribution: Land use data were used to screen potential project areas.

Source_Information:
Source_Citation:
Citation_Information:
Originator: EOEA - MassGIS
Publication_Date: May 2005
Title: Protected and Rereational Open Space
Geospatial_Data_Presentation_Form: vector digital data
Other_Citation_Details: Visit <http://mass.gov/mgis/osp.htm> for more information.
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: May 2005
Source_Currentness_Reference: publication date
Source_Contribution:
Select existing Open Space data (those areas protected in perpituity) were used to screen potential project areas.

Process_Step:
Process_Description:
These process steps describe, in general, the procedures used to produce the Massachusetts Coastal and Estuarine Land Conservation Program Potential Project Areas dataset. It should be noted that coverage-based development

occured in 2004, but the dataset was re-created in a Personal Geodatabase in 2005 to ensure integrity and incorporate modified criteria established after thorough review of the CELC Plan.

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: EOEA - Office of Coastal Zone Management

Contact_Person: Marc Carullo

Contact_Position: GIS Analyst

Contact_Address:

Address_Type: mailing address

Address: 251 Causeway Street

Address: Suite 800

City: Boston

State_or_Province: MA

Postal_Code: 02114

Country: USA

Contact_Voice_Telephone: (617) 626-1200

Contact_Facsimile_Telephone: (617) 626-1240

Contact_Electronic_Mail_Address: marc.carullo@state.ma.us

Hours_of_Service: 9 AM - 5 PM

Process_Step:

Process_Description:

SDE layers and shapefiles were imported to a Personal Geodatabase (hereafter referred to as PGD) to maintain data integrity and organization. Topology classes were created to enforce a suite of rules for lines (select hydrography) and polygons. Examples of rules enforced are that features: Must Not Overlap, Must Not Have Dangles, Must Not Self-Intersect, and Must Be Larger Than Cluster Tolerance.

Process_Date: September 2005

Process_Step:

Process_Description:

Preliminary modifications performed include:

1) add a background polygon to Coastal Zone Towns (78 coastal communities) to account for future mapping scale differences that would place upland areas in rivers, estuaries, etc.

2) select desirable features in Hydrography (line and polygon), Q3 Flood Zones, and Open Space for geoprocessing.

Process_Date: September 2005

Process_Step:

Process_Description:

Modify and update the Statewide Land Conservation Plan (SLCP) data for the Coastal Zone. See the CELC Plan for more information about the SLC Plan.

a. ERASE areas from the SLCP data where the Department of Agricultural Resources (DAR) provided the only vote for the Executive Office of Environmental Affairs (EOEA) partner votes;

b. Reduce physical feature votes in the SLCP by one vote for Surface Water Protection Areas (Zone A, B, C), EPA Sole Source Aquifers, DEP Wellhead Protection Areas (Zone II), and DEP Wellhead Protection Areas (Interim);

c. Use IDENTITY to capture NHESP's BioMap Core Habitat in the SLCP;

d. CALCULATE VALUES for total votes (partner votes, physical votes, -1 vote for Cape Cod);

e. Delete all records where there are less than 3 votes and BioMap Core Habitat is not present.

Process_Date: September 2005

Process_Step:

Process_Description:

Buffer coastal focus features, integrate with SLCP data, and screen areas for potential conservation.

Buffer the following modified feature classes by their respective distances:

a. Hydrography by 1000 feet (on each side for linear features, and outside of polygonal features)

b. Coastline by 2000 feet

c. FEMA Q3 by 2000 feet

d. DCR Trail Vision by 200 feet (on each side of features)

UNION all buffered feature classes and the modified SLCP feature class. Use IDENTITY to integrate the UNION output feature class and MassGIS's 37-class Land Use data for 1999. ERASE selected Protected and Recreational Open Space (where Level of Protection = P [in perpituity) and statewide National Wildlife Refuge boundaries.

Delete all records where Land Use equals:

Mining, Participation recreation, Spectator recreation, Water-based recreation, Residential (all -- high density to low density), Commercial, Industrial, Transportation, Waste Disposal, Marina, Urban public (building or facility), Transportation facility, or Cemetary.

Process_Date: September 2005

Process_Step:

Process_Description:

Clean and prepare data for distribution.

Use IDENTITY to code each record by Town. CALCULATE an area-perimeter ratio for each record. ELIMINATE records where area is less than 0.25 acres. Delete remaining "island" polygons (i.e., polygons that do not share a line segment or touch the boundary of another polygon) that are less than 0.25 acres in size. ELIMINATE records where area is greater than or equal to 0.25 acres AND less than 0.5 acres AND the area-perimeter ratio is less than five. Delete remaining "island" polygons that are less than 0.5 acres and have an area-perimeter ratio of less than five.

DISSOLVE by Town and EXPLODE to single part features.

Export to multiple Shapefiles by Town (78), compress (zip), and attach to self-extracting executable for uploading to Web server.

Process_Date: November 2005

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: G-polygon

Point_and_Vector_Object_Count: 7063

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid_Coordinate_System_Name: State Plane Coordinate System 1983
State_Plane_Coordinate_System:
SPCS_Zone_Identifier: 2001
Lambert_Conformal_Conic:
Standard_Parallel: 41.716667
Standard_Parallel: 42.683333
Longitude_of_Central_Meridian: -71.500000
Latitude_of_Projection_Origin: 41.000000
False_Easting: 200000.000000
False_Northing: 750000.000000
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 0.000256
Ordinate_Resolution: 0.000256
Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222
Vertical_Coordinate_System_Definition:
Altitude_System_Definition:
Altitude_Resolution: 0.000010
Altitude_Encoding_Method:
Explicit elevation coordinate included with horizontal coordinates

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Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label:
<Town> Coastal and Estuarine Land Conservation Program Potential Project Areas
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry.

Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Attribute:
Attribute_Label: CELCP_ID
Attribute_Definition:
Coastal and Estuarine Land Conservation Plan ID (follows sequential order of the internal Feature ID [FID]).
Attribute_Definition_Source: CZM
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 7064
Attribute:
Attribute_Label: TOWN_ID
Attribute_Definition: Massachusetts Town ID (alphabetical).
Attribute_Definition_Source: MassGIS
Attribute_Domain_Values:
Range_Domain:
Attribute:
Attribute_Label: TOWN
Attribute_Definition: City or Town name.
Attribute_Definition_Source: MassGIS
Attribute_Domain_Values:
Range_Domain:
Attribute:
Attribute_Label: AREA_ACRES
Attribute_Definition: Area of feature in acres.
Attribute_Domain_Values:
Range_Domain:
Attribute:
Attribute_Label: SHAPE_AREA
Attribute_Definition: Area of feature in internal units squared.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Range_Domain:
Attribute:
Attribute_Label: SHAPE_LENG
Attribute_Definition:
Perimeter (same as Length, but for polygon features) in square meters.
Overview_Description:
Entity_and_Attribute_Overview:
This dataset does not contain extensive attribution. It's focus is narrow and it's purpose is to guide interested parties in the application process by providing

potential project area boundaries. Attribute definitions can be seen above.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: EOEA - Office of Coastal Zone Management
Contact_Person: Marc Carullo
Contact_Position: GIS Analyst
Contact_Address:
Address_Type: mailing address
Address: 251 Causeway Street
Address: Suite 800
City: Boston
State_or_Province: MA
Postal_Code: 02114
Country: USA
Contact_Voice_Telephone: (617) 626-1200
Contact_Facsimile_Telephone: (617) 626-1240
Contact_Electronic_Mail_Address: marc.carullo@state.ma.us
Hours_of_Service: 9 AM - 5 PM
Resource_Description: Downloadable Data
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Transfer_Size: 18.929
Ordering_Instructions:
To download go to <http://www.mass.gov/czm/celcp/index.htm>, read the disclaimer and user constraints, and choose the appropriate link.
Custom_Order_Process:
Please contact CZM with questions regarding alternative methods of receiving data.
Technical_Prerequisites:
CZM's data may be used in many standard GIS software products. See each software's vendor for technical prerequisites.

Metadata_Reference_Information:
Metadata_Date: 20051117
Metadata_Contact:
Contact_Information:

Contact_Organization_Primary:
Contact_Organization: EOEA - Office of Coastal Zone Management
Contact_Person: Marc Carullo
Contact_Position: GIS Analyst
Contact_Address:
Address_Type: mailing address
Address: 251 Causeway Street
Address: Suite 800
City: Boston
State_or_Province: MA
Postal_Code: 02114
Country: USA
Contact_Voice_Telephone: (617) 626-1200
Contact_Facsimile_Telephone: (617) 626-1240
Contact_Electronic_Mail_Address: marc.carullo@state.ma.us
Hours_of_Service: 9 AM - 5 PM
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

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